



AMD Computation Products Group Update

November 13-17, 2000

COMDEX 2000

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State of AMD

AMD - Year in Review



- ❑ **AMD's technology leadership and innovative product portfolio has led to AMD's success.**
 - *Posted record sales in four consecutive quarters, and record earnings in three consecutive quarters*
 - *Enjoyed a banner year in the company's financial history and market performance.*
- ❑ **Achieved more than 17% PC processor unit market share in 3Q00**
- ❑ **Realized record unit market share in the performance desktop PC space**
 - *AMD Athlon™ processor unit share reached 24% while total desktop share attained 38% (Source: Communicators and Computing Report - October)*
 - *AMD retail system ASP in October at \$1,335 while Intel retail system ASP at \$969 (Source: C&C Report - October)*
- ❑ **AMD Duron™ processor undergoing steep ramp in value desktop PCs**
 - *Shipped 1.5 million AMD Duron processors in 3Q00*
- ❑ **Shipping qualified product from Fab 30 (Dresden) since June 2000 – planned to ramp to 50% capacity by end of 2000**

Market Environment



- ❑ **PC unit shipments projected to grow by 15% to 17% in 2001, according to the Semiconductor Industry Association (SIA)**
- ❑ **Market growth driven by emerging regions (e.g. Asia, Latin America)**
 - Growth in developed regions (e.g. US, Western Europe, Japan) driven by small business and home purchases
 - Local vendors strong in emerging regions (e.g. Legend - China)
- ❑ **Anticipate strong growth for small form factor desktop PCs**
 - Dominating in Japan due to space considerations in the home and office
 - Planned to have a major share of corporate desktops by 2003
 - *Sealed box concept simplifies manageability*
 - Sleek, new industrial designs targeted at consumer market
- ❑ **Mobile sales are trending to the thin & light form factor**
 - Increased portability without compromising performance and features
- ❑ **Appliance server sales represent high growth opportunity**
 - Provide scalable performance in rack mount configurations

AMD Outlook



- ❑ **Positioned to grow performance desktop PC market share**
 - AMD Athlon™ processors in Socket A DDR infrastructure planned to deliver leadership performance at affordable prices
- ❑ **Positioned to regain value desktop PC market share**
 - AMD Duron™ processors in low cost UMA infrastructure planned to hit the market in volume in 1Q01
- ❑ **Positioned to recapture significant market share in mobile**
 - “Palomino” / “Morgan” processors designed to provide high performance, low power solutions for performance and value notebooks in 1H01
 - Features AMD PowerNow!™ technology
- ❑ **Positioned to penetrate appliance / 1-2P servers & workstations**
 - “Palomino” processor in AMD-760™MP platform planned to enable first multiprocessing solution from AMD in 1H01

AMD's DDR platform for performance PCs and UMA platform for value PCs planned to provide a stable, high volume and cost-effective infrastructure solution through 2001 for AMD processors.

Manufacturing Outlook for 2001



- ❑ Austin Fab 25 – loaded 0.18 micron production**

- ❑ Dresden Fab 30 – ramping toward full production**
 - Installing 0.13 micron technology
 - Installing SOI (silicon on insulator) technology
 - Sampling first “Hammer” SOI products

- ❑ Support ~40M unit build plan at current technology mix**



AMD Products

Fundamental Processor Positioning



Performance

- The world's highest performance x86 processor
- Enabling the ultimate computing experience

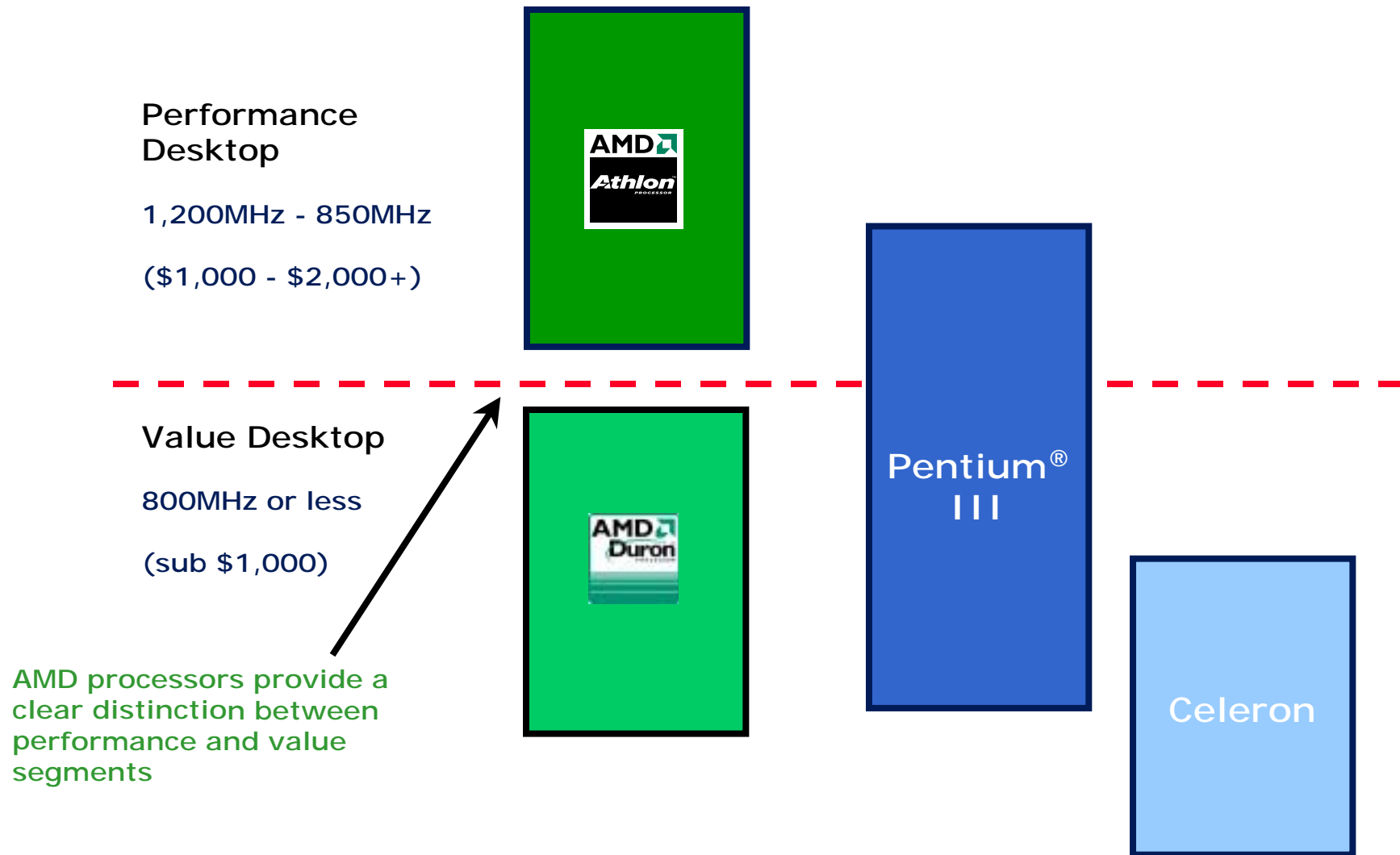


Value

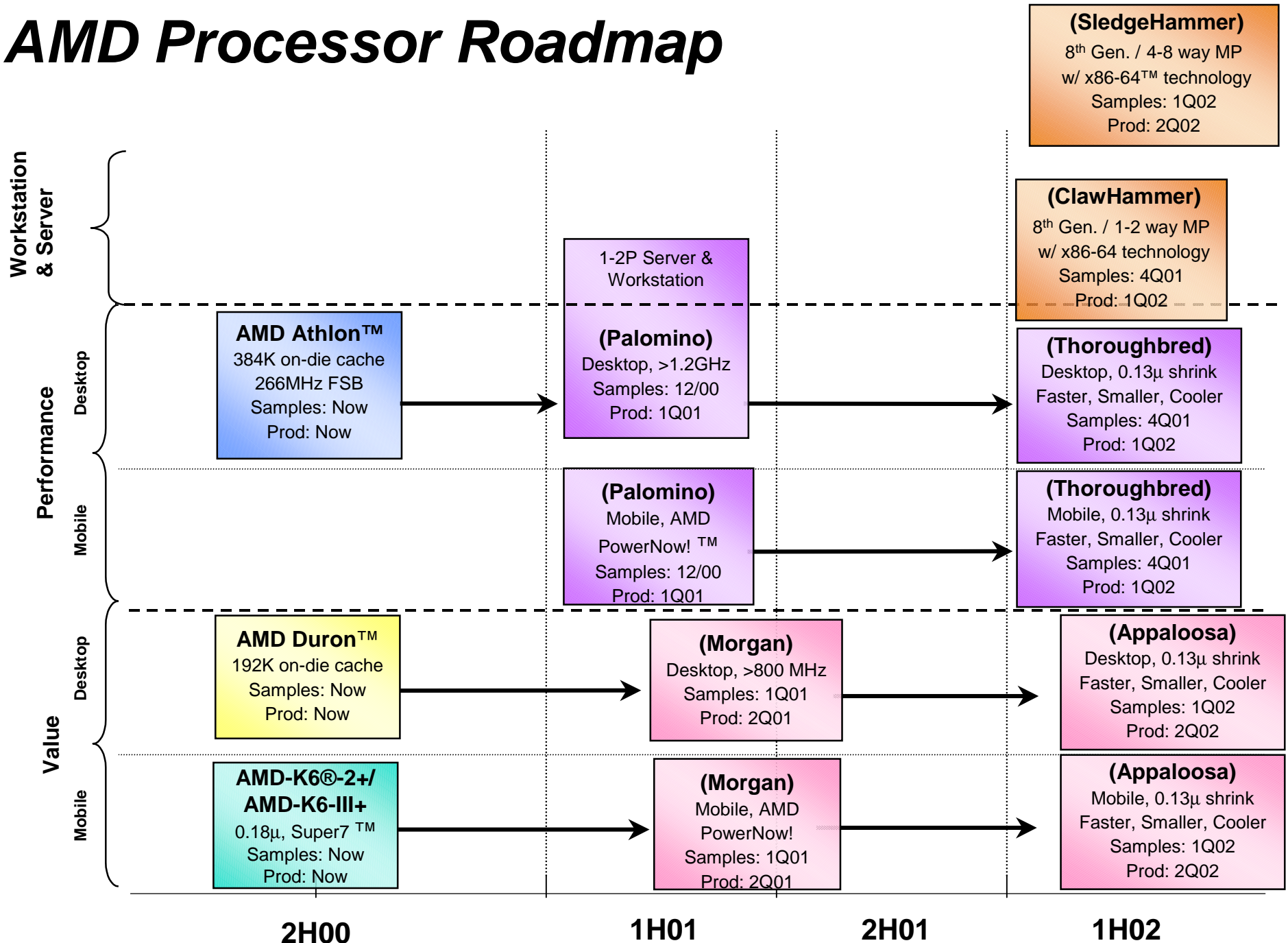
- Optimized solution for value conscious business and home users
- Innovative design planned to prolong the buyer's investment for years to come



AMD Processor Competitive Positioning



AMD Processor Roadmap

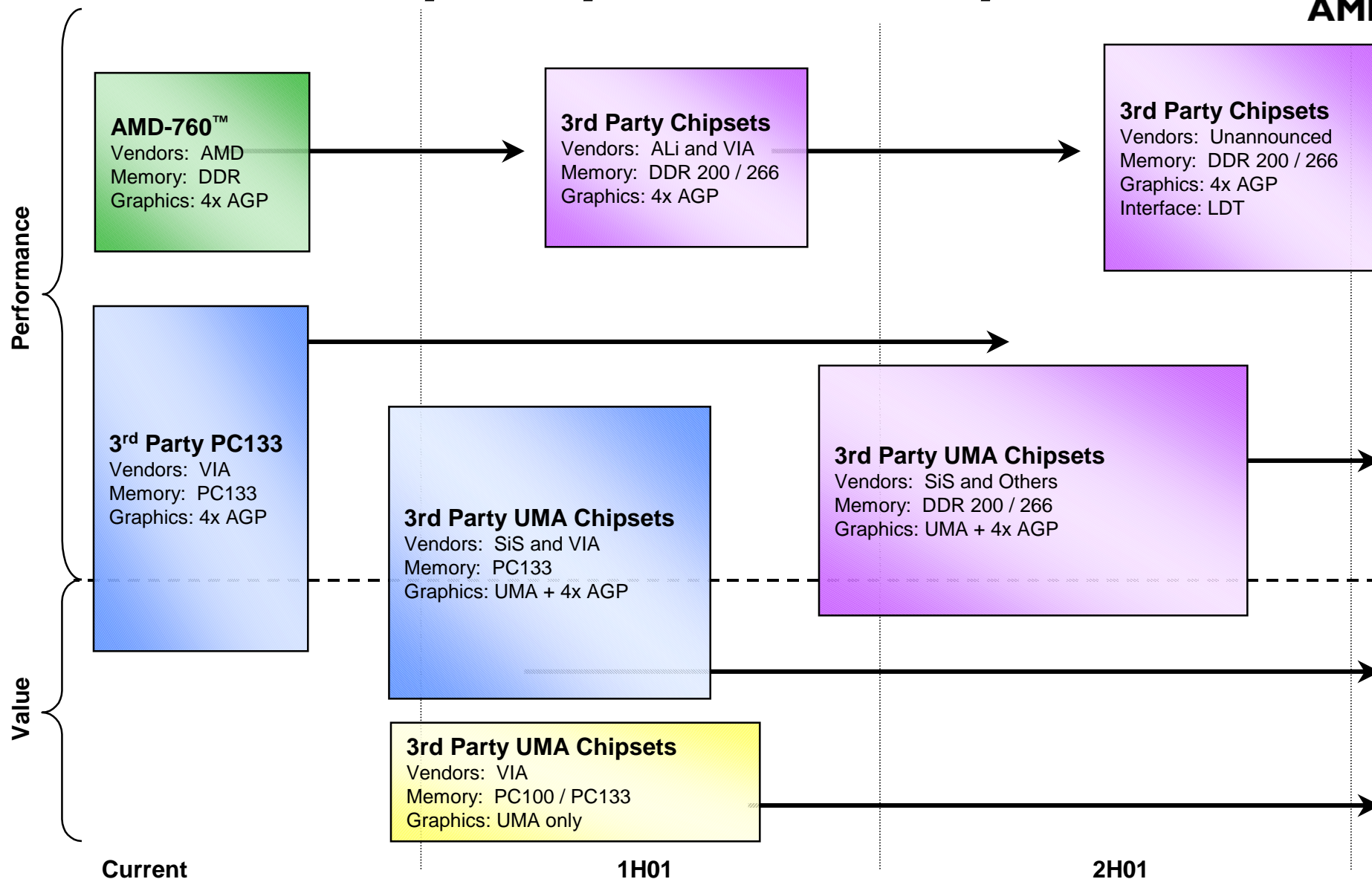


AMD Desktop Processor Positioning



| | System \$\$ | 4Q00 | 1Q01 | 2Q01 | 2H01 | 1H02 |
|-------------|-------------------|------------|------------|--------------|--------------|--------------|
| Performance | \$2,000 and Up | A 1200/266 | A 1333/266 | ≥ A 1500/266 | ≥ A 1700/266 | ≥ CH 2000 |
| | \$1,799 - \$1,999 | A 1133/266 | A 1200/266 | ≥ A 1333/266 | ≥ A 1500/266 | ≥ A 1700/266 |
| | \$1,399 - \$1,599 | A 1000 | A 1100 | A 1200/266 | ≥ A 1333/266 | ≥ A 1500/266 |
| | \$1,099 - \$1,299 | A 900 | A 1000 | A1100 | ≥ A 1200/266 | ≥ A 1333/266 |
| Value | \$800 - \$999 | D 800 | D 850 | D 900 | D 1000 | D 1100 |
| | \$600 - \$799 | D 750 | D 800 | D 850 | D 950 | D 1000 |
| | \$599 and Below | D 700 | D 750 | D 800 | D 900 | D 950 |

AMD Desktop Chipset Roadmap



AMD Innovates: First 7th Generation Processor – AMD Athlon™ Processor



Sustaining Performance Leadership



❑ Platform technology critical to delivering maximum performance

- AMD-760™ platforms which use AMD Athlon™ processors and leverage DDR memory are specifically designed to increase performance
- Forthcoming technologies like LDT will further reduce or remove system bottlenecks

❑ Industry Leading Microprocessor Performance

- AMD Development goal - Double performance every 18 months (or faster)
- Performance = (Clock Speed) X (Architecture)
- AMD Athlon™ processor performance exceeds Pentium® 4
- AMD's 8th-generation processor performance designed to be even better

AMD Innovates: Much Today, More to Follow



❑ **AMD's first 7th-generation architecture**

- Enabled industry's first volume production 1GHz processor
- Makes faster and higher performance PC systems possible for more people worldwide

❑ **First commercially available DDR memory-based PC platform**

- Expands memory bandwidth at a reasonable cost
- Evolutionary platform building on previous memory technology
- Response to customer needs

❑ **AMD PowerNow!™ technology**

- Second-generation battery life enhancing technology
- Enables extended battery life - up to 30%
- Technology supports multiple modes of operation

❑ **AMD Athlon™ SMP chipset: AMD-760™ MP**

- DDR memory: fast and cost effective
- Cost effective 2 processor systems
- Production shipments planned for 1H01

❑ **Lightning Data Transport**

- Planned to provide support for the next generation of component technology
- Open standard for building high bandwidth I/O subsystems
 - > 1 GHz signaling
 - > 1GB/s I/O subsystems: *PCI-X, G-bit Ethernet, InfiniBand, etc*
- Designed to enable scalable 4-8 processor SMP systems for "Hammer" family

❑ **x86-64™ technology**

- A straightforward approach to implementing 64-bit computing by building on the x86 architecture
- Delivers 64-bit advantages while providing full x86 compatibility
- Delivers technology that is designed to seamlessly integrate into existing computing and support environments

AMD's x86-64™ Technology



- ❑ Fully compatible with today's x86 architecture
- ❑ Designed to run today's 32-bit operating systems and applications with industry leading performance
- ❑ 64-bit operating systems:
 - Enable 64-bit applications
 - Can still run existing 32-bit binaries seamlessly, with industry leading performance
- ❑ **ISVs:** Don't port your application unless you need 64 bits
- ❑ **End users:** Only change elements of your application base which require 64 bits
- ❑ **IT industry:** No need for massive investment in new tools, skills, ports, etc.

The 8th Generation: “Hammer”



□ Hammer family goals

- Sustain and increase desktop performance lead
 - *Architectural performance innovations*
 - *Pipeline supports aggressive clock speed scaling*
- Continue mobile segment penetration
 - *Improved energy efficiency through design and technology innovations*
- Introduce seamless 64-bit computing: AMD x86-64™ technology

□ Hammer family products

- “Clawhammer”
 - *1-2P server, workstation, performance desktop and mobile*
 - *Samples planned Q4’01, production shipments planned Q1’02*
 - *0.13um “Clawhammer” less than 100 mm²*
- “Sledgehammer”
 - *4-8 way server class processor*
 - *Large on-die L2 cache*
 - *Samples planned Q1’02, production shipments planned Q2’02*

□ “Hammer” platforms leverage:

- DDR SDRAM
- Lightning Data Transport

Summary



- ❑ **AMD has had a banner year including three successive quarters of record earnings.**
- ❑ **AMD is aggressively ramping our manufacturing capabilities:**
 - Shipping qualified product from Fab 30 (Dresden) since June 2000 – ramping 50% capacity by end of 2000
 - First to flip-chip technology
 - First to fully transition to 0.18 micron
 - Installing 0.13 micron technology
 - Installing SOI (silicon on insulator) technology

Summary



❑ **AMD has continued to demonstrate technology leadership and bring innovative technologies to market.**

- First seventh-generation AMD Athlon™ and AMD Duron™ processors
- First PC processors to 1GHz
- First dynamic power management technology - AMD PowerNow!™
- First PC platform supporting DDR memory (AMD-760™ chipset)
- Seamless migration path to 64-bit computing

❑ **AMD has a robust and broad product roadmap:**

- AMD Athlon and AMD Duron processors for the performance and value segments
- “Palomino” (Mobile AMD Athlon) and “Morgan” (Mobile AMD Duron) for 7th-generation mobile solutions
- “Palomino” + AMD-760™MP chipset for the 1- to 2-way MP server and workstation markets
- Widespread infrastructure support and availability for chipsets, motherboards, and technology initiatives



Backup

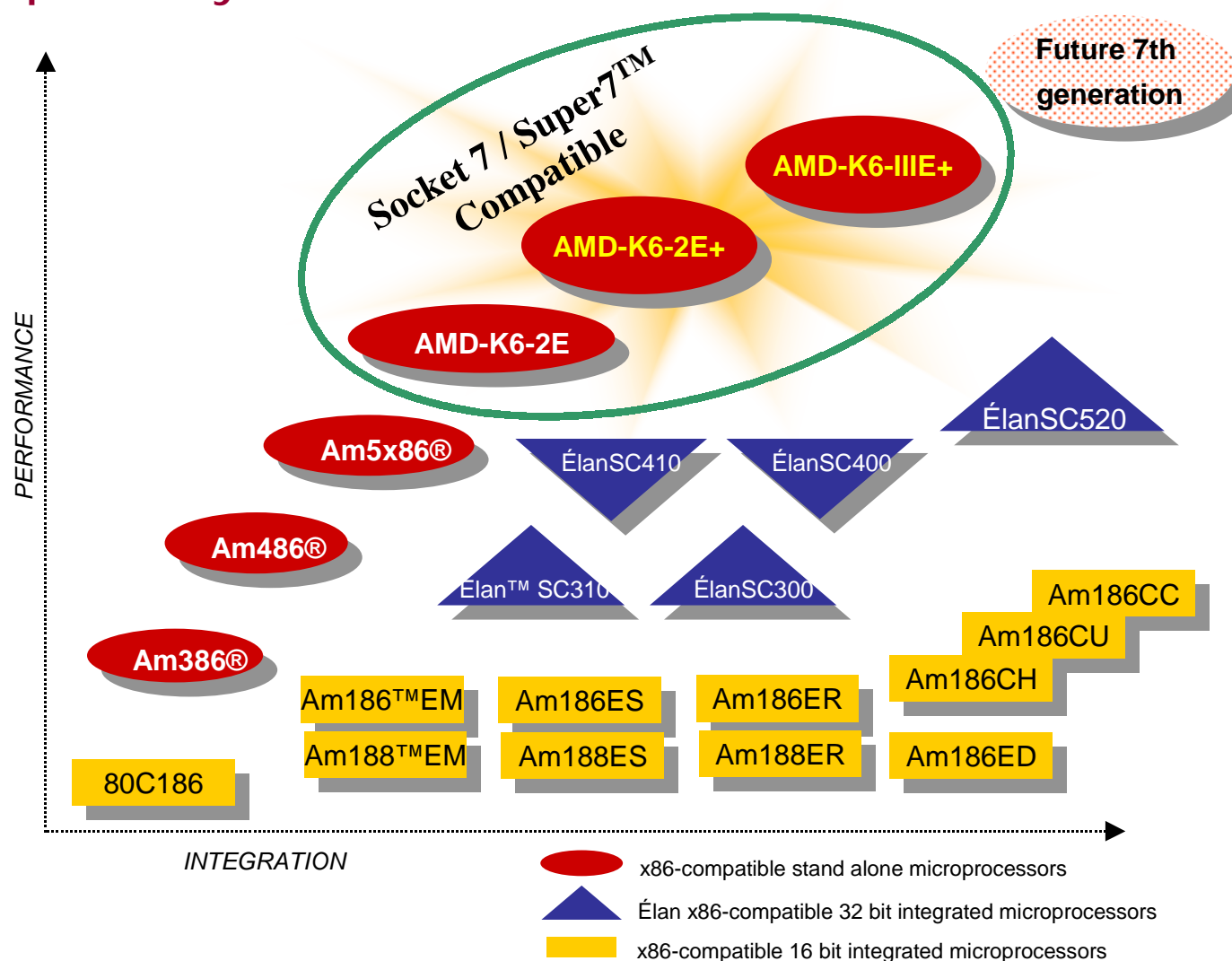


Embedded Products

E86™ Embedded Processor Roadmap



AMD-K6™-2E+ and AMD-K6-III E+ Processors Extend Performance with Compatibility



Sample Information Access Device Design Wins



BroadBand Magic WebFlyer -
Digital Set Top Box w/ DVD
Based on AMD-K6™-2E processor



Compaq – Internet Appliance
Based on AMD-K6-2E processor



Cobalt - Server Appliance
Based on AMD-K6-2E processor



Netier NetXpress – Thin Client
Based on AMD-K6-2E processor



Apple Airport - Wireless Access Point
Based on Élan™SC400 processor



Nokia's 9110 Communicator
Based on ÉlanSC450 processor

Embedded Products



- ❑ **Embedded Processor Division has the charter to develop solutions for this market**
 - History of experience in developing embedded solutions
 - Silicon, Software, Reference Designs, etc.
 - Large network of 3rd party partners to create a total solution
 - Recognize the needs of embedded applications
- ❑ **AMD will leverage the x86 architecture and PC infrastructure**
 - Enables fast time to market
 - Continuous roadmap for range of performance driven by PC
 - Leverages x86 software and knowledge in development community
- ❑ **Cost effective solutions are the key**
 - Processor + Core Logic + Graphics sub-system
 - Leverage AMD PowerNow!™ technology for optimal performance without a fan



AMD's Lightning Data Transport (LDT) Technology

System Trends



❑ Highly Integrated Silicon

- Fewer chips with more functions
 - For example, integrated graphics, audio and communications
- Lower costs needed to make PCs ubiquitous

❑ More multimedia and communications

- Good graphics and audio are no longer luxuries for commercial systems, but requirements
- LAN, cable modem, DSL and wireless technologies are linking all PCs together

❑ All driving the need for faster, low latency, universal interconnect in the box

AMD's System Bus Initiative: Lightning Data Transport (LDT)



□ Goals

- Simplify design and flexibility with a single data link for “in-chassis” connection to I/O, multi-processing and co-processors
- Improve system performance with increased I/O performance and scalable bandwidth
- Enable flexibility of system I/O technologies through a modular tunnel architecture
- Complement externally visible bus standards

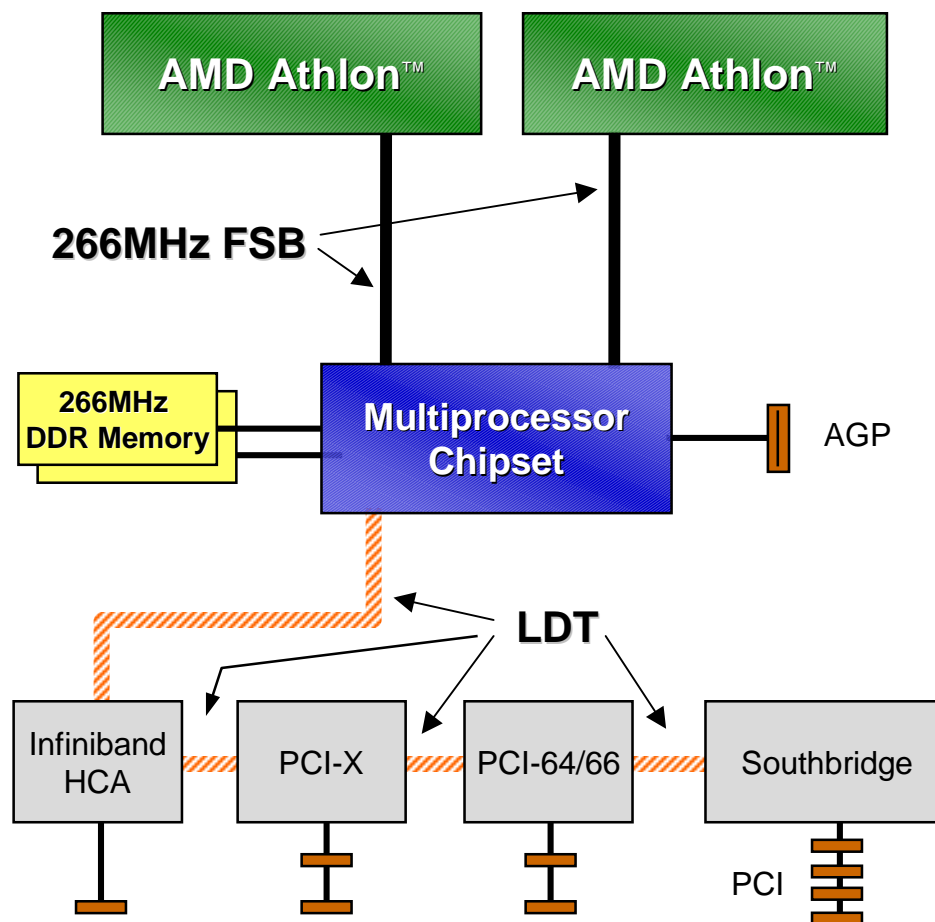
LDT Implementation Example



❑ Daisy chained I/O

- Multiple bridges can be daisy chained on a single I/O link
- LDT bridges can be viewed as generic - reusable building blocks for system design

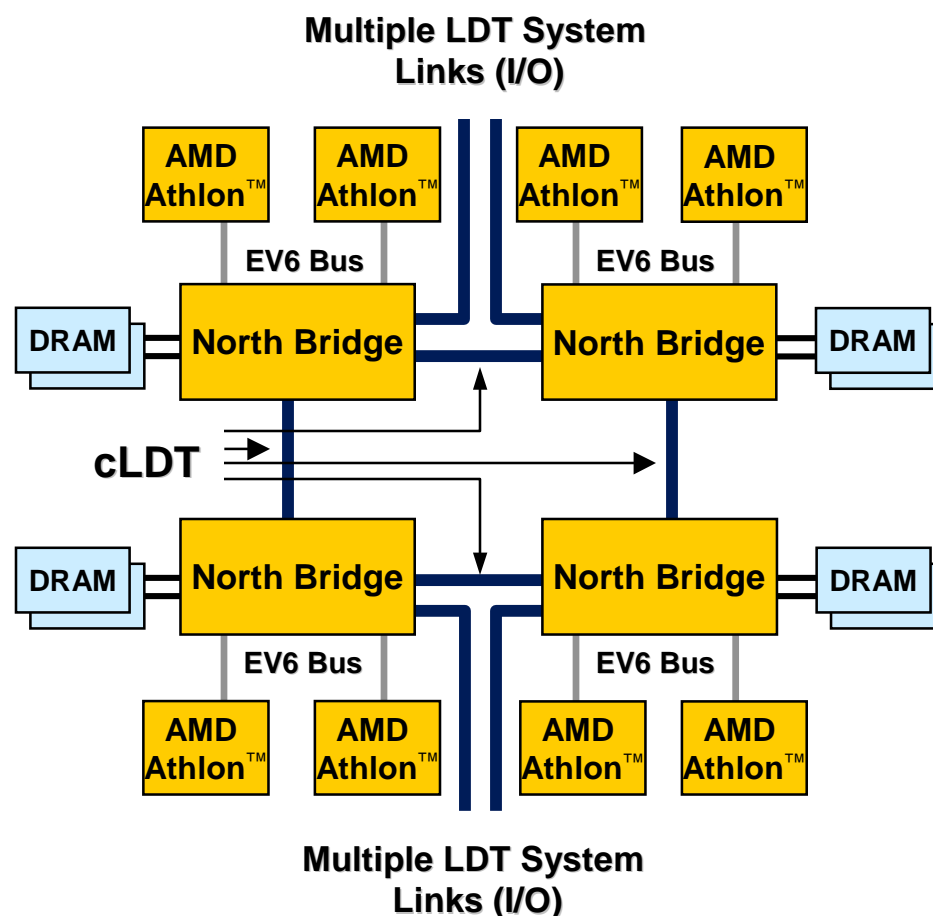
❑ LDT lets Infiniband HCAs be separated from the memory controller



LDT Multiprocessing Example



- ❑ Coherent LDT links provide scalable multiprocessing
- ❑ Memory capacity scales
- ❑ Memory bandwidth scales
- ❑ I/O capacity scales
- ❑ I/O bandwidth scales



LDT Summary



□ LDT provides...

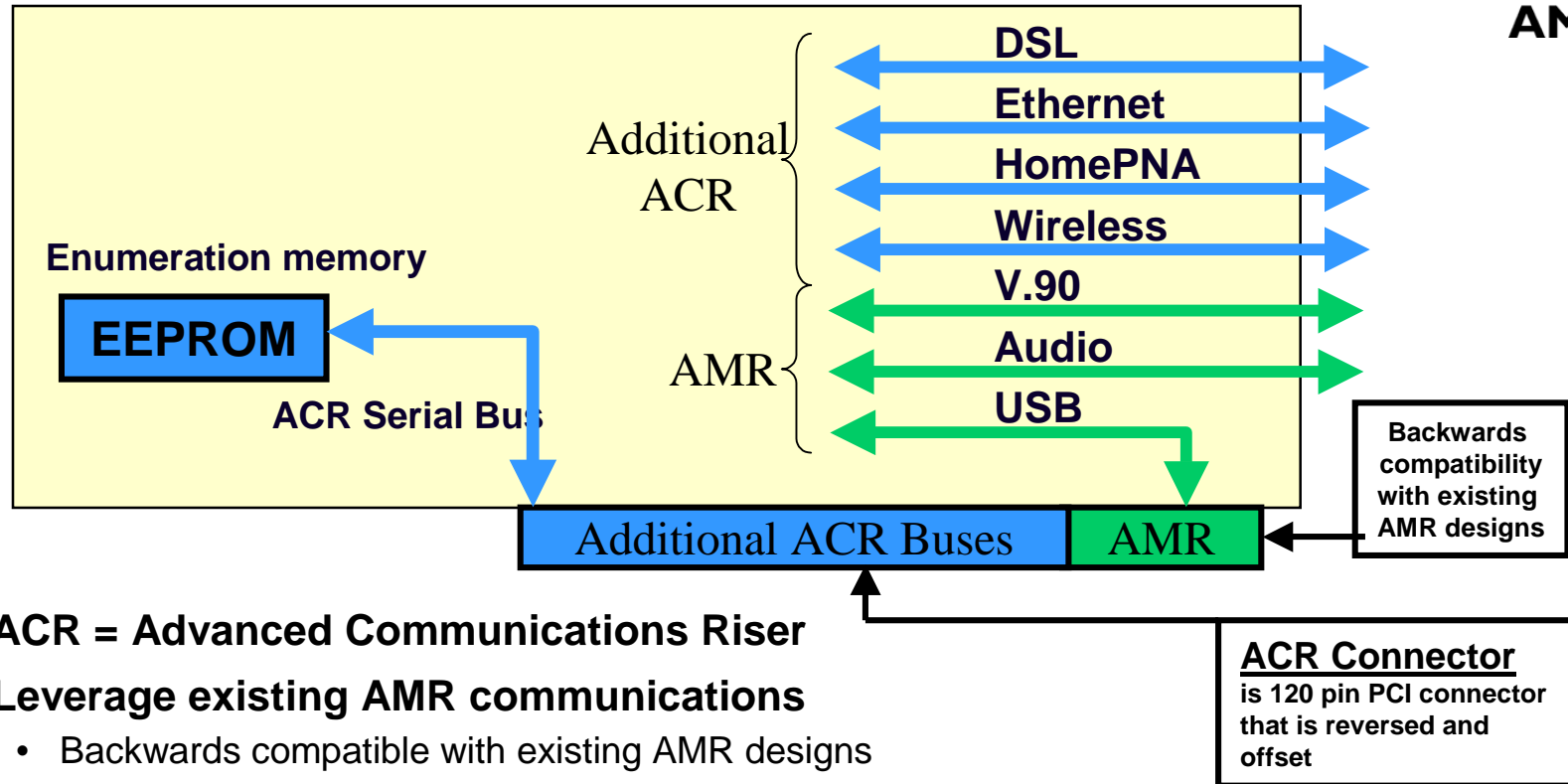
- a significant increase in I/O bandwidth
- a universal link that is capable of eliminating the large number of buses within the PC
- support for I/O building blocks
- highly scalable multiprocessing systems

□ AMD is creating a next generation PC platform architecture



ACR: Advanced Communication Riser

What is ACR?



- ❑ **ACR = Advanced Communications Riser**
- ❑ **Leverage existing AMR communications**
 - Backwards compatible with existing AMR designs
 - V.90 Modem, Audio, and USB
- ❑ **ACR adds communications options, all on the same riser card**
 - DSL, Ethernet, HomePNA, Wireless
- ❑ **ACR is an industry open standard**
- ❑ **ACR is a 2nd generation riser card architecture**
- ❑ **ACR connector is a 120 PCI connector, reversed 180°, and offset**

Why use ACR?



❑ VERSATILITY AND UPGRADABILITY

- A single motherboard SKU can be used to service several market segments, using several different ACR cards for several different communications options.
- AMR is expected to be obsolete without any networking
- CNR is limited, bound, and costly

❑ LOWER COST

- Controllers are in the southbridge
- Same connector as PCI
- Same motherboard BOM, supporting multiple SKUs

❑ ENHANCED RELIABILITY

- More reliable than multifunction PCI

❑ LOWER RISK

- Open standard
- Broad industry support
- Multiple communications functions

ACR SIG Members



3Com
Acer Labs (ALI)
AMD
Analog Devices, Inc.
Aopen Inc.
ArchTek Telecom Corp.
Askey Computer Corp.
AsusTek Computer
Avance Logic, Inc.
Biostar Microtech Int'l
CastleNet Technology
Clare
Cologne Chip AG
Conexant
DFI
D-Link
EFA Corp.
Elite Group Computer Systems
ESS Technology, Inc

First Int'l Computer (FIC)
FMMO Inc.
Giga Byte Technology Co.
Hsing Tech.
IC Ensemble Inc.
ICS
Insyde Software Corp.
Integrated Circuit Systems
Iwill Corp.
KC Technology, Inc.
Lectron Co. Ltd.
Lucent Technologies
Matrox Graphics Inc.
MicroStar Inc. (MSI)
Motorola

NuVision Technology, Inc.
NVIDIA Corp.
Ocean Manufacturing, Inc.
PCTEL Inc
Phoenix Technologies, Ltd.
Quantum Computer
SigmaTel, Inc.
Silicon Integrated Systems (SIS)
Smart Link Ltd.
Standard Microsystems Corp.
(SMSC)
Tech Gen Inc.
Texas Instruments (TI)
T-Square Design, Inc.
Turbocomm Tech. Inc.
VIA Technologies
Well Communication Corp.
Wolfson Microelectronics



Multiprocessing Solutions

Multiprocessing Solutions Overview

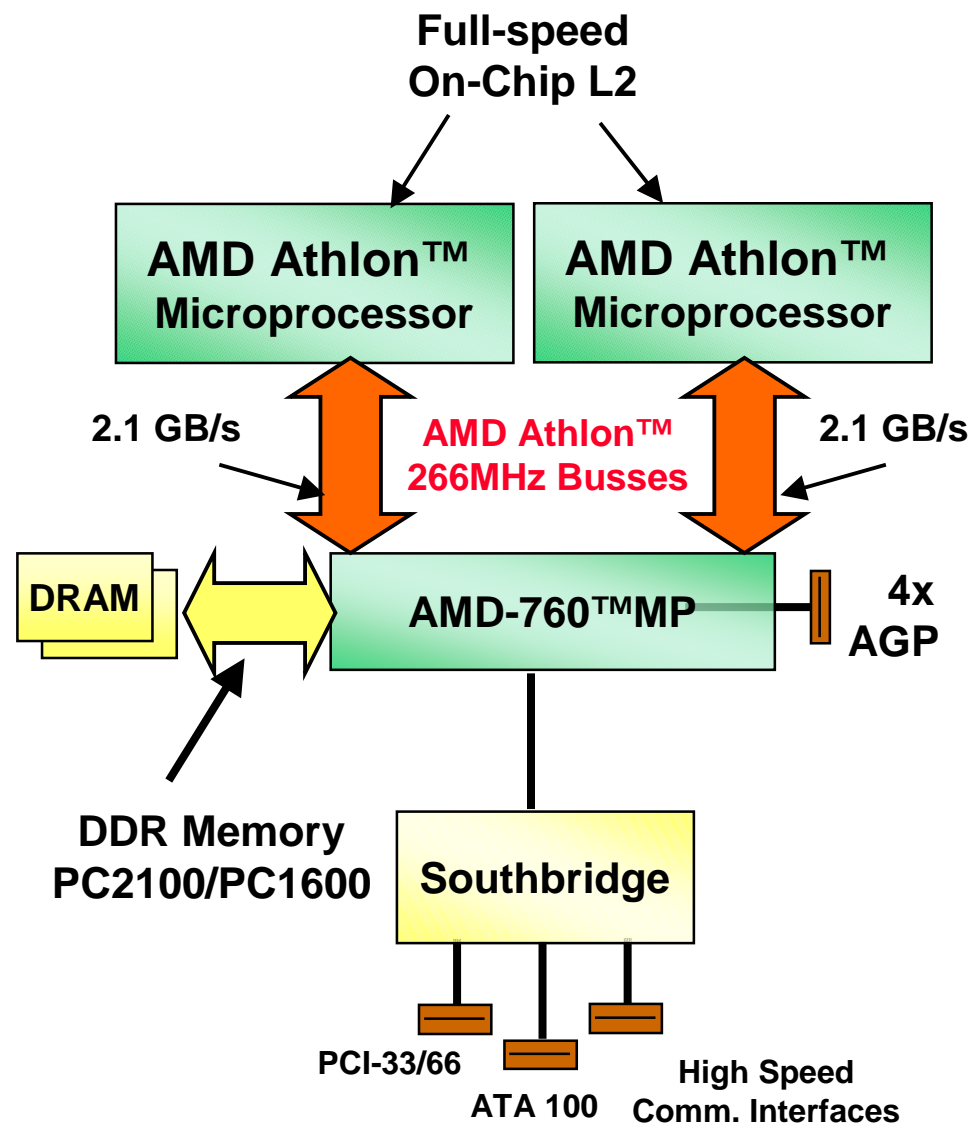


- ❑ **The AMD Athlon™ processor and the AMD-760™MP chipset are designed to enable the next generation of high performance x86 multiprocessing systems**
 - 7th generation microprocessor core
 - AMD multiprocessing chipset
- ❑ **Together, the AMD Athlon™ processor, AMD-760™MP chipset, and DDR memory technology are designed to provide relief from bottlenecks and pitfalls associated with many existing x86 multiprocessing systems**
 - Exclusive cache architecture
 - Point-to-Point FSB transfers
 - PC2100 DDR memory technology

AMD Athlon™ Platform: Bandwidth Realization



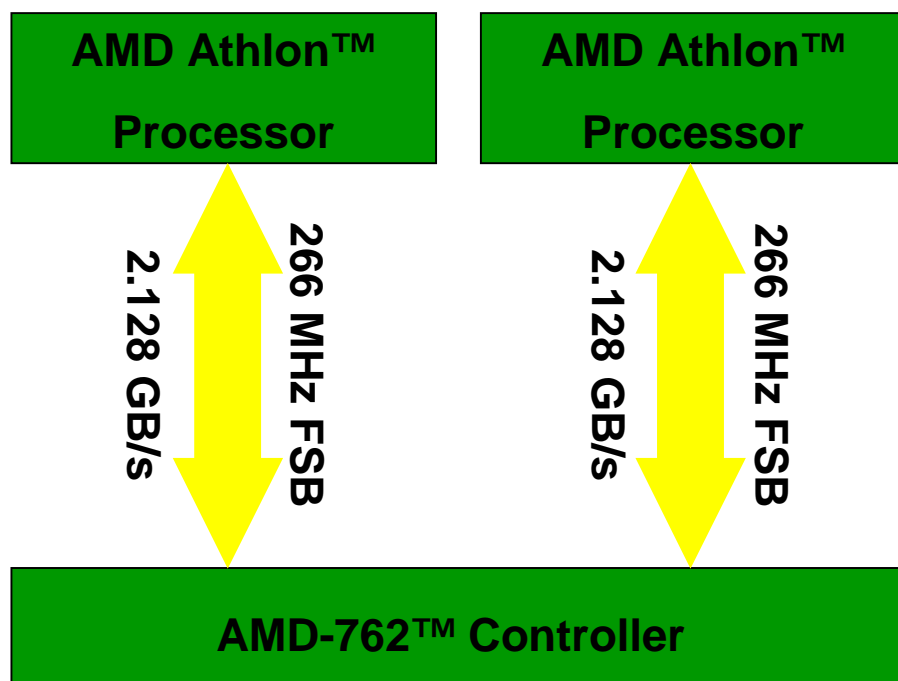
- ❑ **AMD Athlon™ Processor**
 - Superscalar Floating Point Engine
 - On-die, full speed advanced cache subsystem with:
 - Exclusive cache architecture
 - Large L1 cache (128kB)
 - Large L2 caches (256+kB)
- ❑ **Processor Front-Side Bus**
 - Point-to-Point (non-sharing) topology
 - Optimized and scalable MP bus protocol
 - Dedicated Snoop bus
- ❑ **PC2100 & PC1600 DDR SDRAM Memory**
 - High Bandwidth (2.1 GB/s) and low latency
 - Available and cost-effective for solutions
- ❑ **AMD-760™ MP Chipset**
 - Two 266MHz (2.1 GB/s) AMD Athlon™ processor FSBs



Point-to-Point vs. Shared Bus

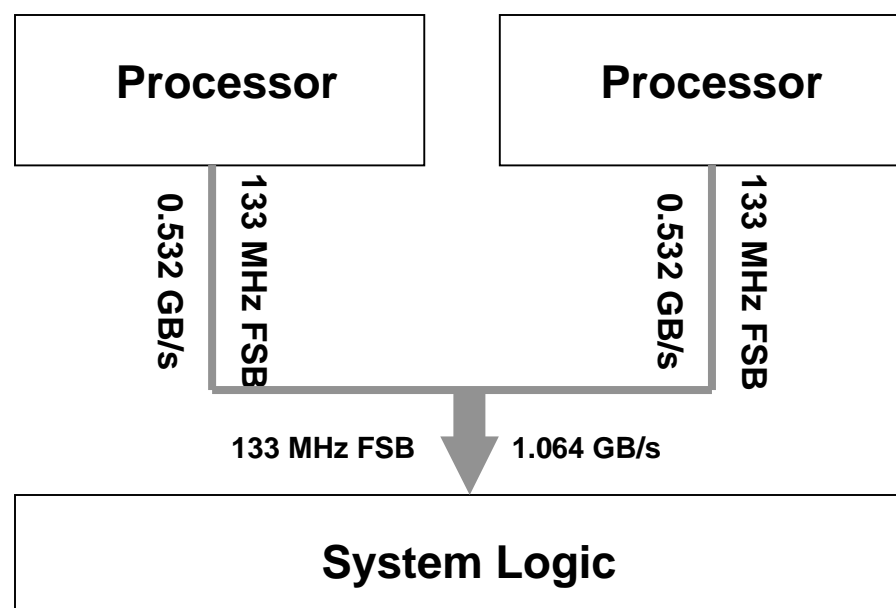


POINT-TO-POINT



- ❑ 2.1 GB/s per processor
- ❑ 4.2 GB/s Total Bandwidth

SHARED BUS



- ❑ 532 MB/s per processor (1.064 / 2)
- ❑ 1.064 GB/s Total Bandwidth



x86-64™ Technology: AMD's 64-bit Computing Solution

Future Computing Technology



Why 64-bit Computing?

- ☐ Large memory applications
 - Database
 - Digital Content Creation
 - Mechanical CAD
 - Electronic Design Automation
- ☐ Security and Encryption
- ☐ Internet Content Delivery
- ☐ Simulation Examples
 - Weather prediction
 - Oil Exploration

AMD's 64-bit Computing Strategy

- ☐ Implement a straightforward approach to 64-bit computing by building on the x86 architecture
- ☐ Deliver 64-bit advantages while providing full x86 compatibility
- ☐ Deliver technology that seamlessly integrates into existing computing and support environment

Industry Implications



- | | |
|-------------------------------|---|
| Microprocessor vendors | <ul style="list-style-type: none">• Deliver 64-bit functionality with x86 compatibility• Bonus: 64-bit performance and 32-bit installed base |
| Platform suppliers | <ul style="list-style-type: none">• Minimal impact on motherboard design, OS, and stability• Decrease cost of technical support for two (32-bit and 64-bit) systems |
| Software vendors | <ul style="list-style-type: none">• Enable development of 32-bit and 64-bit applications in parallel without doubling costs• Not forced to choose between support for 32- or 64-bit application development |
| MIS managers | <ul style="list-style-type: none">• No need to plan for major IT transition, replace 32-bit applications, or re-train in-house development and support staff• No risk of being "left behind" with incompatible 32-bit technologies |
| End users | <ul style="list-style-type: none">• Not "forced" to upgrade to 64-bit apps and new OS• Leverage performance enhancements to dual 32/64 chips |

Only AMD x86-64™ Technology Addresses All These Needs!

AMD x86-64™ Technology



❑ A Better Idea

- Designed with the following features:
 - *Backward compatible - Full 32-bit x86*
 - *Familiar instruction set extended for 64-bit*
 - *Enhanced memory model for 64-bit addressing*
- Enables more robust CPU designs:
 - *Single core for both 32- and 64-bit*
 - *Unified support for execution of 32- and 64-bit applications*
 - *Performance enhancements improve both modes at the same time*

❑ Key Innovations

- New 64-bit processor mode (Long Mode)
- 64-bit flat virtual memory addressing
- Instruction set enhancements
- Doubled the number of registers (now 16)
- Fully featured compatibility mode

❑ Advancing the potential of x86

- New operand / address sizes rather than new instructions
- Extends existing mechanisms rather than creating new ones
- Future CPU improvements accelerate both 32-bit and 64-bit performance at the same time

x86-64™ Technology Summary



- ❑ **The most straightforward approach to 64-bit computing**
 - Not a major disruption, preserves the existing instruction set
 - Proven, familiar methodology for extending architecture
- ❑ **Seamless integration with existing environments**
 - Introduces advantages of 64-bit computing while retaining existing software, tools, drivers, etc.
 - Leverages the billions of dollars invested in existing software
 - Maintains existing support and maintenance procedures
- ❑ **AMD continues to deliver the ultimate computing experience**
 - Performance for both 32 and 64-bit applications at same time
 - Brings architectural superiority of AMD Athlon™ processors to high-end x86 markets

1kU Pricing*



❑ AMD Athlon™ processors (266MHz system bus)

- 1,200MHz \$673
- 1,133MHz \$506
- 1,000MHz \$385

❑ AMD Athlon processors (200MHz system bus)

- 1,200MHz \$612
- 1,100MHz \$460
- 1,000MHz \$350
- 950MHz \$282
- 900MHz \$215
- 850MHz \$193

❑ AMD Duron™ processors (200MHz system bus)

- 800MHz \$170
- 750MHz \$112
- 700MHz \$88

❑ AMD-760™ Chipset \$39

- Includes both chips
 - AMD-761™ (a.k.a Northbridge)
 - AMD-766™ (a.k.a. Southbridge)

****Pricing effective as of October 30, 2000***

Cautionary Statement



This presentation contains forward-looking statements, which are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are generally preceded by words such as “expects”, “plans”, “believes”, “anticipates”, or “intends.” Investors are cautioned that all forward-looking statements in this presentation involve risks and uncertainty that could cause actual results to differ materially from current expectations. Forward-looking statements in this presentation about AMD processor products involve the risk that AMD may not be able to gain market share for its products in the desktop, mobile, server and workstation markets, that AMD may not be successful in developing an infrastructure to support the processor; that AMD may not develop the new products on the expected timetable, or with expected technologies, or at all; that third parties may not provide infrastructure solutions to support the AMD processors; and that AMD processors will not achieve customer and marketplace acceptance. We urge investors to review in detail the risks and uncertainties in the company’s Securities and Exchange Commission filings, including the most recently filed Form-10K.

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